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The Rodent Problem on Cutover Areas in Southeast Alaska

Seed-eating or seed-destroying mammals are a factor of great importance in forest regeneration. They can limit, or completely nullify, the establishment of seedlings under natural conditions, or efforts of reforestation by direct seeding. This is particularly true during years when the cone crop is poor or light. Hooven[1/] found that a population of 6 or more mice per acre would make serious inroads into all but the greatest of seed falls.

Cone crops of western hemlock and Sitka spruce have been of sporadic occurrence in Southeast Alaska, the last good crop occurring in 1951. As a result, the better sites on some of the areas logged since 1951 are now threatened by brush invasion. The increasing tempo of pulp operations may sometimes require a program of direct seeding to insure prompt regeneration of desirable tree species before brush becomes a serious problem. The first step in such a program is to determine the extent of the rodent problem on cutover areas.

A rodent trapping study was made on a large clearcutting in Southeast Alaska.[2/] In 1954, 15 rodent snap traps were set in the clearcut and 15 in an adjacent strip of timber. Traps, baited with peanut butter, were set a half-chain apart and visited daily for 3 consecutive days. Results of the 1954 trapping are shown in table 1.

Table 1.—Mice and shrews per 3-day trapping period, 1954

Time of trapping	Area	
	Timber	Clearcut
	Number caught	
August	6	14
Per 100 trap-days	13.3	31.1

In 1955, 20 snap traps were set, but only in the clearcut area. Trapping was done during June, July, August, and September, in different locations each month. Results of 240 trap-days in the four areas are shown in table 2.

1/ Hooven, Edward F. Midsummer baiting to control seed-eating mammals. Res. Note No. 22, Oregon State Board of Forestry. 4 pp. 1955.

2/ Maybeso Creek watershed, Prince of Wales Island. The cutting is several hundred acres in size. Logging began in August, 1953.

Table 2.—Mice and shrews per 3-day trapping period in clearcut, 1955

Time of trapping	Number caught	Per 100 trap-days
June	7	11.7
July	11	18.3
August	9	15.0
September	7	11.7
Average	8.5	14.2

In 1954, 13 white-footed mice (Peromyscus) and 1 shrew (Sorex) were trapped in the clearcut; a value of 31.1 percent per 100 trap-days. Six mice were caught in the woods; a value of 13.3 percent per 100 trap-days. In 1955, 34 rodents were caught; 16 mice and 18 shrews. Average percent catch per 100 trap-days for the four areas (June through September) was 14.2 with values ranging between 11.7 and 18.3 percent. These results indicate a potentially dangerous population of seed-eating or seed-destroying rodents.

All rodents are not equally bad from the standpoint of seed consumption and destruction. White-footed mice generally feed heavily on coniferous seed. Shrews, though normally considered meat-eaters, will eat some tree seed. Seed acceptance tests, using seeds of local conifers, are needed before the seed-eating habits of these rodents can be accurately determined. These tests, plus a pilot study on rodent poisoning, will be made during the 1956 field season in cooperation with the U. S. Fish and Wildlife Service.

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